Title (en)

TRANSISTOR WITH AIRGAP SPACER

Title (de)

TRANSISTOR MIT LUFTSPALT-SPACER

Title (fr)

TRANSISTOR À ESPACEUR D'AIR

Publication

**EP 3326206 A4 20190220 (EN)**

Application

**EP 15899048 A 20150717**

Priority

US 2015040936 W 20150717

Abstract (en)

[origin: WO2017014725A1] A microelectronic transistor may be fabricated having an airgap spacer formed as a gate sidewall spacer, such that the airgap spacer is positioned between a gate electrode and a source contact and/or a drain contact of the microelectronic transistor. As the dielectric constant of gaseous substances is significantly lower than that of a solid or a semi-solid dielectric material, the airgap spacer may result in minimal capacitive coupling between the gate electrode and the source contact and/or the drain contact, which may reduce circuit delay of the microelectronic transistor.

IPC 8 full level

**H01L 29/49** (2006.01); **H01L 21/336** (2006.01); **H01L 21/764** (2006.01); **H01L 21/768** (2006.01); **H01L 29/78** (2006.01)

CPC (source: EP KR US)

**H01L 21/764** (2013.01 - EP US); **H01L 21/7682** (2013.01 - EP KR US); **H01L 21/76897** (2013.01 - US); **H01L 29/4991** (2013.01 - EP KR US); **H01L 29/66545** (2013.01 - EP KR US); **H01L 29/78** (2013.01 - EP US); H01L 23/485 (2013.01 - EP)

Citation (search report)

- [X] US 2013248950 A1 20130926 - KANG HONG-SEONG [KR], et al
- [X] US 2015091089 A1 20150402 - NIEBOJEWSKI HEIMANU [FR], et al
- [X] US 2014217520 A1 20140807 - NIEBOJEWSKI HEIMANU [FR], et al
- [X] US 2014110798 A1 20140424 - CAI XIUYU [US], et al
- [X] US 6093612 A 20000725 - SUH JAI-BUM [KR]
- [X] US 6274450 B1 20010814 - LIN TONY [TW], et al
- See references of WO 2017014725A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

**WO 2017014725 A1 20170126**; CN 107851659 A 20180327; CN 107851659 B 20220408; EP 3326206 A1 20180530; EP 3326206 A4 20190220; EP 3326206 B1 20211124; EP 3696862 A1 20200819; EP 3926688 A1 20211222; KR 102542847 B1 20230614; KR 20180021210 A 20180228; KR 20230088516 A 20230619; TW 201724353 A 20170701; TW 202211375 A 20220316; TW I747828 B 20211201; TW I800120 B 20230421; US 10204999 B2 20190212; US 11114538 B2 20210907; US 2018197966 A1 20180712; US 2019123164 A1 20190425

DOCDB simple family (application)

**US 2015040936 W 20150717**; CN 201580081756 A 20150717; EP 15899048 A 20150717; EP 20169401 A 20150717; EP 21189963 A 20150717; KR 20187004449 A 20150717; KR 20237019295 A 20150717; TW 105118407 A 20160613; TW 110144047 A 20160613; US 201515743847 A 20150717; US 201816230454 A 20181221